

THE EFFECT OF COURSE RESSOURCES TYPE ON THE QUALITY OF STUDENTS' LEARNING (QSL) IN UNIVERSITY OF GUILAN, IRAN (CASE STUDY: GENERAL PSYCHOLOGY AND RESEARCH METHODOLOGY COURSES)

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ABSTRACT

The aim of this research was to investigate the effect of the type of resources on QSL in General Psychology and Research Methodology courses in Humanities at University of Guilan, Iran. Four conditions were compared: (A) Books (B) Formal notes (C) Informal notes (D) Handouts. A randomized groups design, analyzed by t- test comparisons between all conditions, was adopted in preference to a factorial design and ANOVA. This was because the assumption of additivity could not be made for conditions constructed out of different combinations of semantically meaningful material. To ensure ecological validity the experiment was conducted during a normal course of instruction. The results indicated that D and B conditions were critical factors in resources effectiveness on QSL.

KEYWORDS: Resources, Learning, Quality

INTRODUCTION

Continuous learning, as well as psychology to point out that students have about 80% of the time listening to the lectures class and to benefit from the lectures they often uses their own learning strategies they use for note-taking. According to them, the different notes of cognitive processes on different strategies and methods of cognitive process that is one of the several students to facilitate learning and improve academic performance to underline. (Sharifi, Rahmati.2012)

Some experiences about the effect of teaching resources on QSL indicate that students, who are given skeletal resources, usually perform better in course examinations than students who take all their own notes. Also, they prefer to have any other resources instead of books as course content. The present study investigates whether the amount of detail in the resource is a critical factor in this matter or not. A randomized groups experiment was conducted in the context of two courses on the General Psychology and Research Methodology courses in the Faculty of Humanities at University of Guilan. Four conditions were compared: (A) Books (B) Formal notes (C) Informal notes and (D) Handouts.

Previous researches have investigated whether reviewing such notes improves the QSL through student performance in course examinations. There are widespread evidences of such an effect. The lecture method and student note taking are ubiquitous and interrelated components of instruction and learning in large, introductory college classes. As a consequence, student skill in taking and reviewing notes and potential strategies for assisting students in improving the effectiveness of these processes have been the focus of great volume of research. (Mark Grabe, Kimberly, Christopher son, 2005)

For most people students, lecture notes serve as a rehearsal tool for preparing for an examination. Indeed, many researchers have reported that students who review lecture notes prior to taking examination, compared to those who do not, demonstrate higher test scores. As pointed out, it appears that it is not, note taking per se but note having and reviewing which facilitate performance. (Fang –Yi Flora Wei, Y. Ken Wang, Warren Fass, 2014)

Other studies have shown that more than 99% of university students, 94% believe that notes are as an important part of the educational experiences, as well as is widely accepted and considered as a valuable tool and as the most important skills for students. (Sharifi, Rahmati. 2012).

Note-taking provides students an opportunity to engage in higher –order cognitive activities. Students become actively engaged in the lecture; they need to track the teachers speech, select important information in the lecture, and paraphrase this information into their own words before recording it in notes.(Joseph R. Boyle, A. Forchelli 2014)

It s benefits lecture note-taking can be cognitively demanding as it typically involves student having pay attention to a lecture, temporarily holding onto the information provided while simultaneously organizing that information, and then having to write it down before it is forgotten. Perhaps as a result, students may adopt different note-taking strategies whose effectiveness can vary for a number of reasons, among them being individual differences in Cognitive ability (Dung C. Bui, Joel Myerson 2014)

Studies focuses on the benefits of having students take notes on incomplete outline that contain much more details than those tested in prior research on note taking. After reviewing previous research on note-taking, typeface and type and experiment is proposed to examine the effects of note taking and visual aid design on short term recall. After the results of the experiment are summarized, conclusions and implications are highlighted.(Roland B. Larson 2009)

Therefore, those students would learn more from lectures if they obtained a better record of the lecture content. One way of attempting to ensure this is to issue resources containing some or all of the lecture content to be retained for private study afterwards. However, previous research suggests that if the resources are full one, such as a transcript, this might not improve QSL).

As well as, Using guide note taking in this experimental study proved useful in that a quick look at the incomplete outline of the lecture helped the students listen selectively and without attending to every word.(Kirkgöz 2010). And the main objective of note-taking is to capture the essential points of the lecture the student later uses for revision, particularly for examination purposes or to write a summary or report based on the notes. (Kirkgoz 2010)

The role of students note taking in helping to make lecture content, memorable, has long been a focus of applied linguistic research.

Recently, a more nuanced picture of note taking has emerged , which goes beyond comparison and evaluation of different students note and explores individual student conceptualizations of the purpose of taking notes in lecture.(Tony Lynch 2011)

There are two possible reasons for these disappointing results. Both relate to the hypothesis that the process of taking notes while listening to a lecture facilitates assimilation and subsequent recall by stimulating highly personal encodings of the lecturer's oration. First, the resources material, still in the original form when review takes place, might interfere with the student's recall of the transformed version. Second, being given a full resource might displace the

allegedly beneficial process of QSL. Research on whether memory for material given in lectures is facilitated by the process of note-taking presents an equivocal picture

In view of these findings, a promising approach would be to issue skeletal handouts for students with their own notes during the lecture itself. By this means they would obtain a record of details which they might have omitted from their own notes, while at the same time gaining any benefits there might be in note-taking. If the resources were designed with spaces for the students' own notes to be integrated with the printed detail, then the alleged problem of interference during review might also be reduced or eliminated altogether.

Note taking during class has been an ignored communicating unfortunate, as researchers have shown that note taking can enhance students retention of information. (Fang- Yi Flora Wei , Y. ken Wangi, Warren Fass 2014)

It thus appears that the amount of detail in a handout is a factor affecting learning from a lecture. The optimal amount is likely to be less than the full transcript, but how much less remains unclear. A cognitive ability that seems like it should be important for lecture note taking is working memory, which has been defined as the ability to temporarily hold and manipulate limited amounts of information. (Dung C. Bui, Joel Myerson, 2014)

Despite the apparently similar cognitive demands of working memory and note-taking task, to date there have been relatively few empirical studies examining the link between them, and the studies that have examined this relationship have produced mixed results. Some studies have reported that working memory and note-taking abilities are correlated. (Dung C. Bui, Joel Myerson, 2014)

For the most part, researchers examining the relationship between working memory and note-taking have not instructed their participants on how to take their notes.

Indeed, relatively few students ever receive formal instruction in note-taking. Perhaps as a result, different student may use different note-taking strategy they use. (Dung C. Bui, JOEL Myerson, 2014)

METHODOLOGY

- **Design of Experiment**

The aim of this experiment was to investigate the effect of lecture resource on QSL. Four conditions were compared: (A) Books (B) Formal notes (C) Informal notes (D) Handouts. A randomized groups design, analyzed by t- test comparisons between all the conditions, was adopted in preference to a factorial design and ANOVA. This was because the assumption of additivity could not be made for conditions constructed out of different combinations of semantically meaningful material. To ensure ecological validity the experiment was conducted during a normal course of instruction.

- **The Context**

The experiment was conducted during the first and second year of a university courses in General Psychology and Research Methodology courses in Humanities in University of Guilan, Iran. Academic Staff members may be given for a variety of purposes other than the transmission of information. Nevertheless, there are many courses where this is a principal aim, and where a necessary condition of effective lecturing is maximum recall of the information given -such is the case in the teaching of operative techniques to dental students.

The lecture chosen for administering the experimental resources was an integral part of the course, and dealt with the contents of General Psychology and Research Methodology courses. During the lecture, this lasted 75 minutes and took

place in big class. One week after the lecture, the students attended in the same class. During this class, researcher evaluated the students' attempts and gave individualized instruction (but without knowing which experimental group they belonged to). Also during the class, while the students listened the lecturer explanations. Questions on these procedures were liable to appear in the final examination, and the students had access to further information from textbooks.

- **Subjects**

The subjects were 120 undergraduate Humanities students (70 female, 50 male) aged approximately between 19-30 years in counseling discipline.

- **Procedures**

Prior to the experiment, each of the students was randomly allocated to one of the four resources conditions. On entry to the lecture class, each of them collected a paper with his / her name on it which contained the lecture resource material. Students in condition A received the book; in condition B they prepared for the formal notes; in condition C they suggested for the informal notes only; while in condition D they received handouts. The resources given to students in condition A, B, C and D all were totally different. These conditions were also given the contents or suggestions which were explained during the lecture.

When the students had taken their seat, they were asked to involve all their resources. Thus, although the students in condition A received books, they did experience being given enough time and being given an instruction about their books, as did the other three conditions.

The following extracts from conditions A, B, C and D shows the differences between them.

Condition A

Objectives

- Type of Research Method. Introduce some books.
- Cognitive Development. How they study the books.

Condition B

Objectives

- Type of Research Method. Read some contexts for students so that they can write.
- Cognitive Development. How they write and study the formal notes.

Condition C

Objectives

- Type of Research Method. Explain variety of contents and students write whatever they want.
- Cognitive Development. How they can use their individual notes

Condition D

Objectives

- Type of Research Method. Introduce some handouts.
- 2 Cognitive Development. How they can use the handouts

For students, participation in lectures requires active listening and an effective note-taking skills. Training student to take notes during lecture is an important component for academic purposes curriculum in preparing them for their future academic classes. For this reason, a course on academic lectures is needed in order to enable student to promoting student.

Measurement of Recall

Recall was assessed by two tests. The first was held without warning 1 week after the lecture, at the beginning of the class. It comprised five questions requiring freely constructed descriptions of aspects of the procedure. The second test was held 3 weeks later, students this time being given a week's warning. This comprised five further questions also requiring freely constructed descriptions of aspects of the procedure. Both tests were scored blind as to the origin of the scripts, using a detailed marking scheme.

RESULTS

Table 1 shows the amount of notes taken by students in the four conditions (measured by the number of words). Consistent with previous studies there was an inverse relationship between the amount of material in the handout and the amount of own note-taking by students. Thus, despite all having blank spaces in their handouts, students in condition C took only about one-third the notes taken by the students in condition B, who in turn took less than half those taken by the students in condition D. these differences were both significant at the $p < 0.05$ level. However, the difference between conditions C and D was very small and not statistically significant. Because there were often large differences in standard deviations, variance ratio tests were carried out on all of conditions.

Part of the purpose of the lecture was to teach students the sequence and purpose of the steps in the operative procedure before they practiced them in the practical class 2 weeks later. Consequently it is a valid criterion for evaluating the different handout conditions to test how much students could recall about the procedure before they began the practical class.

Previous research on incomplete handouts tested the provision of no more than 50% of the lecture material. The assumption seems to be that students must write at least half the lecturer down to learn the material. Recall can affect by the detail of the incomplete outlines (Roland B. Larson 2009)

Table 1: Test Performance for Comparison Among Different Conditions

Conditions			
A	B	C	D
Books	Formal Notes	Informal Notes	Handouts
(n=30)	(n=30)	(n=30)	(n=30)

Table 2

Unannounced Test Administered 2 Weeks after the Lecture				
Mean	9.43	7.13	13.46	9.38
SD	5.91	4.31	8.39	4.90
Forewarned Test Administered 2 Weeks after the Lecture				
Mean	22.27	17.67	21.66	13.34
SD	6.99	9.97	5.64	9.79
Number of Pages Have Read During the Lecture				
Mean	55.33	240.60	544.15	552.09
SD	63.24	106.75	154.07	199.49

Table 1 shows that the best performance was by students in condition C, followed by A, D and B in that order. The difference between conditions C (Informal notes) and B (formal notes) was statistically significant ($p < .05$), variance ratios and t-tests being computed as described above.

Recall of Lecture Material after 2 Weeks

Table 1 show that the best performance in the forewarned test taken 2 weeks after the lecture was by students in condition A (using books). However, they were only marginally better than condition C (informal notes), followed by conditions B (formal noted) and D (Handouts) in that order. Both the condition A and C means were significantly different from the condition D mean ($p < .05$).

DISCUSSIONS

The interpretation of experimental researches on quality of teaching and learning methods presents many problems, not least that each experiment is only a snapshot and has limited generalizability. Nevertheless, the results of this experiment fill a gap in the research literature and thereby extend the database required for meta-analysis. Moreover, they suggest a way of improving the design of lecture resources which could be developed and evaluated formatively by lecturers themselves.

The major aim of this study was to develop in the students appropriate recourse content strategies by designing a whole range of tasks, because it was only through developing appropriate tasks that students could gain effective note-taking strategies in a lecture context. (Duygu Cettingoz, 2010)

The results indicate that

- The amount of detail appears to be a critical feature of resources design, as shown by the significantly better performance in the test 2 weeks after the lecture by condition A (books) than by condition B (formal notes).

One of research on incomplete handouts tested the provision of no more than 50% of the lecture material. The assumption seems to be that students must write at least half the lecture down to learn the material. Recall can be affected by the detail the incomplete outlines (Ronald B. Larson 2009)

Efficiency of notes recorded has been suggested as indicator of performance good note-taking skill. Reported that efficient notes have the maximum number of lecture points recorded using minimum number of words and found that college students recorded an average of 32-11 words and 10-88 lecture points per lecture, resulting in an average lecture point 3.02 words in length furthermore, reported that note-taking efficiency was moderately positively correlated with recall. (Joseph R. Boyle, Gina A. Forchelli, 2014)

- The relationship between the amount of detail and the degree of facilitation of recall is non-monotonic, as shown by the reversals in the test performances of the different conditions.

Compared the recall of presentation that had very abbreviated skeletal outlines, partial outlines, containing about 50% of the information, complete handouts, and no handouts (e.g., student took their own notes) they concluded that the level of detail is a critical factor in handout effectiveness. (Ronald B. Larson 2009)

Although information recall is considered to be a rudimentary educational objective, achieving such retention of knowledge is a not simple process. (Fang- Yi Flora Wei, Y. Ken Wang, Warren Fass 2014), proposed that note-taking

facilitates learning in two important ways. Providing not just what these authors termed an external storage benefit. But providing in addition what they termed an encoding benefit. More specifically, they argued that note taking not just help by recording lecture information for us to restudy later: importantly, note-taking also helps at the time of the lecture by promoting the encoding of information in ways that facilitate late retrieval.(Dung C. Bui , Joel Myerson, 2014)

The overall pattern of results is consistent with the following hypotheses about the cognitive processes involved in quality of teaching and learning process:

First, that information given in resources may both facilitate subsequent recall (by providing review material) and inhibit it

Second, the results suggest the hypothesis that consulting a resource while listening to a lecture may interfere with encoding. This may explain the poor performance of condition B (formal notes) in the first test. With such a handout it would have been necessary to judge which details of the lecturer's delivery were already printed on it, and which were not, any needed to be noted.

Third, the results are consistent with a further hypothesis which is complementary to the two already mentioned. This is that the effectiveness of a resource may depend on how soon after a lecture the students need to make use of the material- e.g. in a practical class or discussion group.

Research on note taking goes back 40 years. This researcher argued that note taking served two primary functions. First, the act of taking notes requires learners to encode noted information into long term memory, thus serving an encoding function. And note takings second function what others have referred to as external storage function and is typically concerned with how a complete set of note. (Douglas F. Kauffman, Ruomeng Zhao, Ya - Shu Yang 2011)

CONCLUSIONS

In conclusion, the type of resources can increase quality of students' learning but they must facilitate the process of listening to the lecture as well as provide review material. This is critically dependent on the amount of detail they contain, and more research is needed on the complex cognitive interactions which are involved. Nevertheless, there is a clear indication in this research that resources deserve serious attention by lecturers who wish to maximize recall.

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